

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Applicant(s): Ewald Bergler

Group Art Unit: 2611

Serial No.: 10/517,745

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Examiner: Malek, Leila

For: DATA CARRIER COMPRISING MEANS FOR INFLUENCING THE
SLOPE COURSE OF THE SIGNAL EDGES IN AN AMPLITUDE-
MODULATED SIGNAL

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

BRIEF ON APPEAL

Sir/Madam:

This brief is in furtherance of Applicant's Notice of Appeal filed on April 2, 2009, appealing the decision of the Examiner dated December 5, 2008 finally rejecting claims 1-11.

I. Real Party in Interest

The real party in interest in this appeal is NXP B.V., High Tech Campus 60, 5656 AG Eindhoven, The Netherlands.

II. Related Appeals and Interferences

There are currently no related appeals or interference proceedings in progress that will directly affect, or be directly affected by, or have a bearing on the Board's decision in the present Appeal.

III. Status of Claims

Claims 1-9 were originally filed on December 9, 2004. In a preliminary amendment filed on December 9, 2004, claims 1-9 were amended. In response to the Office Action of July 25, 2007, claims 1, 5 and 9 were amended, and new claims 10 and 11 were added. In response to the Final Office Action of January 9, 2008, claims 1 and 5 were further amended. In response to the Office Action of June 11, 2008, claims 10 and 11 were further amended. Claims 1-11 stand finally rejected and form the subject matter of the present appeal.

Claims 1-9 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Applicant's admitted prior art (hereinafter "AAPA") in view of U.S. Patent Number 4,646,327 (hereinafter "Kojima et al."). Claims 10 and 11 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over AAPA and Kojima et al. in view of U.S. Patent Number 4,118,739 (hereinafter "Umehara").

This Appeal is made with regard to pending claims 1-11.

IV. Status of Amendments

No amendments were filed subsequent to final rejection.

V. Summary of Claimed Subject Matter

The claimed invention includes a data carrier (1) designed to modulate a carrier signal (CS) using a data signal (DS) to generate an amplitude-modulated signal (S) (See lines 1-10 on page 1 of the Specification) and a circuit (3) for a data carrier (1) to modulate a carrier signal (CS) using a data signal (DS) to generate an amplitude-modulated signal (S) (See lines 11-19 on page 1 of the Specification).

According to an embodiment, as recited in the independent claim 1, a data carrier (1), which is designed to modulate a carrier signal (CS) that can be received in a contactless manner (See lines 11-13 on page 4 of the Specification), and which is equipped with transmission means (2), designed to transmit the carrier signal (See lines 14-16 on page 4 of the Specification), and which is equipped with an electrical circuit (3), which circuit is equipped with at least one terminal (4, 5), to which terminal the transmission means is connected and via which terminal the carrier signal can be fed to the circuit (See lines 19-22 on page 4 of the Specification), and which circuit is equipped with a data signal source (9) designed to generate and emit a data signal (DS) having only two voltage values (See lines 3-13 on page 5 of the Specification), and which circuit is equipped with modulation means (11) designed to receive the data signal and, using the data signal, to modulate the carrier signal occurring at the at least one terminal, and to generate an amplitude-modulated signal (S) having only two amplitudes (See lines 14-33 on page 5 of the Specification), in which amplitude-modulated signal edges (SL) occur, characterized in that signal-edge influencing means (12) provided, which is designed to influence the slope characteristic of the signal edges in the amplitude-modulated signal (See lines 12-14 on page 6 of the Specification).

According to an embodiment, as recited in the independent claim 5, a circuit (3) for a data carrier (1) which is designed to modulate a carrier signal (CS) that can be received in a contactless manner (See lines 11-13 on page 4 of the Specification), and which is equipped with transmission means (2) to transmit the carrier signal (See lines 14-16 on page 4 of the Specification), which circuit is

equipped with at least one terminal (4, 5), to which terminal the transmission means can be connected, and via which terminal the carrier signal can be fed to the circuit, and which circuit is equipped with a data signal source (9) designed to generate and emit a data signal (DS) having only two voltage values (See lines 3-13 on page 5 of the Specification), and which circuit is equipped with modulation means (11) designed to receive the data signal and, using the data signal, to modulate the carrier signal occurring at the at least one terminal, and to generate an amplitude-modulated signal (S) having only two amplitudes (See lines 14-33 on page 5 of the Specification), in which amplitude-modulated signal edges (SL) occur, characterized in that signal-edge influencing means (12) is provided, which is designed to influence the slope characteristic of the signal edges in the amplitude-modulated signal (See lines 12-14 on page 6 of the Specification).

VI. Grounds of Rejection to be Reviewed on Appeal

Whether claims 1-9 are unpatentable under 35 U.S.C. §103(a) over AAPA in view of Kojima et al.

Whether claims 10 and 11 are unpatentable under 35 U.S.C. §103(a) over AAPA and Kojima et al. in view of Umehara.

VII. Argument

In the Final Office Action of December 5, 2008, the Examiner rejected claims 1-11 under 35 U.S.C. §103(a) over AAPA in view of Kojima et al. and/or Umehara. However, the Examiner has failed to establish a *prima facie* case of obviousness for the independent claims 1 and 5, as explained below. Thus, the independent claims 1 and 5 and the dependent claims 2-4 and 6-11 are not unpatentable under 35 U.S.C. §103(a) over AAPA in view of Kojima et al. and/or Umehara.

A. Rejection of Independent Claims 1 and 5 Under 35 U.S.C. §103(a)

The independent claims 1 and 5 were rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over AAPA in view of Kojima et al. However, the Examiner has failed to establish a *prima facie* case of obviousness for the independent claims 1 and 5. Thus, the independent claims 1 and 5 are not obvious over AAPA in view of Kojima et al.

The Examiner on page 4 of the Final Office Action asserts that “[i]t would have been obvious to one of ordinary skill in the art at the time of the invention to modify Applicant’s background of invention as taught by Kojima to correct the distortions in the communication system (see column 1, lines 1-18).” Thus, the Examiner has apparently alleged that it is obvious to include the waveform shaping apparatus (11) and the LPF (13) of the data transmitting-receiving system of Kojima et al. in the data carrier (1) of AAPA to derive the claimed invention, as recited in the independent claims 1 and 5.

If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

In the data carrier (1) of AAPA, the data signal (DS) is used to control the modulation means (11) so that the signal (S) is generated by the data carrier (1). As described on page 5, lines 9-11, of the current application, the data signal (DS) “is digital in nature and, accordingly, essentially has either a first voltage value corresponding to the reference potential GND or a second voltage value corresponding to the supply voltage V.” Thus, the modulation means (11) needs a signal with first and second voltage values, such as the data signal (DS), to produce the desired output signal (S).

The waveform shaping apparatus (11) of the data transmitting-receiving system of Kojima et al. processes input data and produces output signal, e.g., the

output signal of Fig. 3F. As illustrated in Fig. 3F, the output signal includes more than two levels, e.g., levels -1, 0, 1, 2 and 3. Thus, if the data carrier (1) of AAPA is modified to include the waveform shaping apparatus (11) and the low-pass filter (13) of Kojima et al., the signal applied to the modulation means (11) of the data carrier (1) of AAPA would have more than two levels and the modified data carrier will be rendered unsatisfactory for its intended purpose, i.e., to produce the desired output signal (S). That is, the output signal (S) will not be produced by the modified data carrier using the output signal from the waveform shaping apparatus (11) of Kojima et al. on the modulation means (11) of the data carrier (1) of AAPA. Thus, the independent claims 1 and 5 are not obvious in view of AAPA and Kojima et al.

In response to Applicant’s argument that “modification of Applicant’s background of invention in view of Kojima would be unsatisfactory for its intended purpose; therefore there is no suggestion or motivation to make the proposed modification,” the Examiner on page 2 of the Final Office Action asserts that “it is always desirable in communication systems to reduce the distortions of the signal” and that “by modifying Applicant’s background of invention as taught by Kojima, the distortions in the communication system can be corrected (see column 1, lines 1-18).”

However, even if “it is always desirable in communication systems to reduce the distortions of the signal,” this desired reduction of signal distortions will not motivate one of ordinary skill in the art to make the proposed modification when the resulting device will be unsatisfactory for its intended purpose. As explained above, the application of the teachings of Kojima et al. to the data carrier (1) of AAPA will not produce the desired signal, i.e., the load-modulated signal (S) shown in Fig. 1 or 2. Thus, it is not reasonable to expect one of ordinary skill in the art to apply the teachings of Kojima et al. to the data carrier (1) of AAPA when the resulting device will not operate in the manner it was intended, i.e., not producing the expected load-modulated signal (S) shown in Fig. 1 or 2. Thus, there is no reasonable motivation to modify the data carrier (1) of

AAPA by applying the teachings of Kojima et al. in the manner suggested by the Examiner.

In addition, the Examiner has not provided any evidence that the waveform shaping apparatus (11) and the low-pass filter (13) of Kojima et al., as applied to the data carrier (1) of AAPA, will “*influence the slope characteristic of the signal edges in the amplitude-modulated signal,*” as recited in the independent claims 1 and 5. The Examiner on page 5 of the Final Office Action merely states “since both waveform shaping apparatus 11 and LPF 13, inherently influence the slope characteristic of the signal edges, therefore the combination of 11 and 13 has been interpreted as the signal-edge influencing means.” However, there is no mention in Kojima et al. that the waveform shaping apparatus (11) and the LPF (13) will influence the slope characteristic of the signal edges of the signal produced by the modulator (14), which is connected to the LPF (13). Thus, the Examiner has failed to establish a *prima facie* case of obviousness for the independent claims 1 and 5, which include the limitation of “*characterized in that signal-edge influencing means provided, which is designed to influence the slope characteristic of the signal edges in the amplitude-modulated signal.*”

B. Rejection of Dependent Claims 2-4 and 6-11 Under 35 U.S.C. §103(a)

Each of the dependent claims 2-4 and 6-11 depends on one of the independent claims 1 and 5. As such, these dependent claims include all the limitations of their respective base claims. Thus, these dependent claims are patentable for at least the same reasons as their respective base claims. Furthermore, the dependent claims 10 and 11 are allowable for the following additional reasons.

Claims 10 and 11 were rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over AAPA and Kojima et al. in view of Umehara. The cited reference of Umehara discloses a waveform shaper (10) which is an integrating circuit consisting of a capacitor (42) and a resistor (43), and a modulator (13) comprising a transistor (25). However, as explained in column 3, lines 63-67, of

Umehara, the “waveform shaper 10 is an integrating circuit consisting of a capacitor 42 and a resistor 43 and integrates the horizontal flyback pulses having a positive polarity as shown in FIG. 2(a) into a sawtooth waveform as shown at numeral 101 in FIG. 2(b).” Thus, the waveform shaper (10) operates on a particular signal, i.e., horizontal flyback pulses, to change the signal into a desired waveform, i.e., a sawtooth waveform. However, the data carrier (1) of AAPA and the waveform shaping apparatus (11) of Kojima et al. do not use horizontal flyback pulses. Thus, one of ordinary skill in the art would not have applied the teachings of Umehara with respect to the waveform shaper (10) since the waveform shaper (10) is used on horizontal flyback pulses to produce a sawtooth waveform for a particular application, i.e., a switching regular for a television receiver. Thus, there is no motivation to apply the teachings of Umehara to the modified data carrier of AAPA. Thus, the Examiner has failed to establish a *prima facie* case of obviousness for claims 10 and 11.

SUMMARY

The Examiner has failed to establish a *prima facie* case of obviousness for the independent claims 1 and 5 using AAPA and Kojima et al. because there is no suggestion or motivation to make the proposed modification since the proposed modification would render the data carrier of AAPA unsatisfactory for its intended purpose. The Examiner has also failed to establish a *prima facie* case of obviousness for the dependent claims 2-4 and 6-11 since these dependent claims include all the limitations of their respective base claims 1 and 5.

For all the foregoing reasons, it is earnestly and respectfully requested that the Board of Patent Appeals and Interferences reverse the rejections of the Examiner regarding claims 1-11, so that this case may be allowed and pass to issue in a timely manner.

Respectfully submitted,
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VIII. Claims Appendix

- 1 1. A data carrier, which is designed to modulate a carrier signal that can be
- 2 received in a contactless manner, and which is equipped with transmission means,
- 3 designed to transmit the carrier signal, and which is equipped with an electrical
- 4 circuit, which circuit is equipped with at least one terminal, to which terminal the
- 5 transmission means is connected and via which terminal the carrier signal can be
- 6 fed to the circuit, and which circuit is equipped with a data signal source designed
- 7 to generate and emit a data signal having only two voltage values, and which
- 8 circuit is equipped with modulation means designed to receive the data signal and,
- 9 using the data signal, to modulate the carrier signal occurring at the at least one
- 10 terminal, and to generate an amplitude-modulated signal having only two
- 11 amplitudes, in which amplitude-modulated signal edges occur, characterized in
- 12 that signal-edge influencing means provided, which is designed to influence the
- 13 slope characteristic of the signal edges in the amplitude-modulated signal.

- 1 2. A data carrier as claimed in claim 1, characterized in that the signal-edge
- 2 influencing means is realized by filtration means.

- 1 3. A data carrier as claimed in claim 2, characterized in that the filtration
- 2 means is provided between the data signal source and the modulation means and
- 3 designed to filter the data signal that can be emitted from the data signal source to
- 4 the modulation means.

1 4. A data carrier as claimed in claim 2, characterized in that the filtration
2 means is formed by a low-pass filter.

1 5. A circuit for a data carrier which is designed to modulate a carrier signal
2 that can be received in a contactless manner, and which is equipped with
3 transmission means to transmit the carrier signal, which circuit is equipped with at
4 least one terminal, to which terminal the transmission means can be connected,
5 and via which terminal the carrier signal can be fed to the circuit, and which
6 circuit is equipped with a data signal source designed to generate and emit a data
7 signal having only two voltage values, and which circuit is equipped with
8 modulation means designed to receive the data signal and, using the data signal, to
9 modulate the carrier signal occurring at the at least one terminal, and to generate
10 an amplitude-modulated signal having only two amplitudes, in which amplitude-
11 modulated signal edges occur, characterized in that signal-edge influencing means
12 is provided, which is designed to influence the slope characteristic of the signal
13 edges in the amplitude-modulated signal.

1 6. A circuit as claimed in claim 5, characterized in that the signal-edge
2 influencing means is realized by filtration means.

1 7. A circuit as claimed in claim 6, characterized in that the filtration means is
2 provided between the data signal source and the modulation means and designed
3 to filter the data signal that can be emitted from the data signal source to the
4 modulation means.

1 8. A circuit as claimed in claim 6, characterized in that the filtration means is
2 formed by a low-pass filter.

1 9. A circuit as claimed in claim 5, characterized in that the circuit is realized
2 as an integrated circuit.

1 10. A circuit as claimed in claim 5, characterized in that the modulation means
2 includes a transistor with a control terminal, and the signal-edge influencing
3 means includes a resistor connected directly to the control terminal of the
4 transistor of the modulation means and a capacitor connected directly to the
5 control terminal of the transistor of the modulation means and ground.

1 11. A data carrier as claimed in claim 1, characterized in that the modulation
2 means includes a transistor with a control terminal, and the signal-edge
3 influencing means includes a resistor connected directly to the control terminal of
4 the transistor of the modulation means and a capacitor connected directly to the
5 control terminal of the transistor of the modulation means and ground.

IX. Evidence Appendix

NONE

X. Related Proceedings Appendix

NONE